IN THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-22 (Canceled).

23. (New) A system for managing signaling in a data communication network for achieving fast signaling route re-establishment comprising:

i. a mobile capable communication terminal that can change its point of attachment and communication address during a communication session, and is able to recognize previously used attachment point and address;

ii. a correspondent terminal that maintains communication session with the said mobile capable communication terminal, and is able to recognize previously used address by the said mobile capable communication terminal; and

iii. a single or plural network elements along the data path of the said communication session that are capable of freezing the signaling state for the said communication session with relevant network resources released and reactivating the

said signaling state with relevant network resources re-allocated upon reception of predefined signaling messages.

24. (New) The system for managing signaling in a data communication network for achieving fast signaling route re-establishment according to claim 23 further comprising a network element along the data path of the said communication session that is capable of detecting the change in the data path and initiate the message for releasing the network resources on the previous data path and updating the state information on the overlapped data path.

25. (New) The system for managing signaling in a data communication network for achieving fast signaling route re-establishment according to claim 23, wherein the said mobile capable communication terminal further comprising:

i. means for indicating preferred treatment of signaling state over previous data path by including a flag in the messages for setting up signaling state over the new data path; and

ii. means for calculating the time period for keeping a previously used communication address information by using

information of the previous network connection status and characteristics.

26. (New) The system for managing signaling in a data communication network for achieving fast signaling route re-establishment according to claim 23, wherein the said correspondent terminal communicating with the said mobile capable communication terminal is capable of changing point of attachment and communication address during the said communication session.

27. (New) The system for the said mobile capable communication terminal according to claim 23 to recognize its previously used point of attachment and communication address comprising:

i. a local database for storing the attachment point and communication address information; and

ii. a timer associated with the attachment point and communication address information;

whereby the stored information would be removed when the timer expires.

4

28. (New) The system for the said correspondent terminal communicating with the said mobile capable communication terminal according to claim 23 to recognize the previously used communication address of the mobile capable communication terminal comprising:

i. a local database for storing the said mobile capable communication terminal identity and communication address information; and

ii. a timer associated with the identity and communication address information;

whereby the stored information would be removed when the timer expires.

29. (New) A system for managing signaling in a data communication network for achieving fast signaling route re-establishment comprising:

i. a mobile capable communication terminal that can change its point of attachment and communication address during a communication session, and is able to recognize previously used attachment point and address;

ii. a single or plural network elements along the data path of the said communication session that is capable of freezing the

signaling state for the said communication session with relevant network resources released and reactivating the said signaling state with relevant network resources re-allocated upon reception of predefined signaling messages; and

iii. a local mobility anchor point along the data path of the said communication session that is capable of detecting and concealing the change of the communication address of the said mobile capable communication terminal and recognizing previously used communication address by the said terminal, and able to initiate the message for release the network resources on the previous data path.

30. (New) The system for the said local mobility anchor point according to claim 29 to recognize the previously used communication address of the mobile capable communication terminal comprising:

i. a local database for storing the said mobile capable communication terminal identity and communication address information; and

ii. a timer associated with the identity point and communication address

whereby the stored information would be removed when the timer expires.

31. (New) A system for managing signaling in a data communication network for achieving fast recovery from transient route changes comprising:

i. a single or plural pair of communication terminals that maintains communication sessions during the transient route change;

ii. a single or plural crossover nodes that are capable of detecting the route changes, initiating messages for releasing network resources over the old route, monitoring the availability of the old route, and informing route management entity when the old route becomes available; and

iii. a single or plural network elements along the data path of the said communication session that are capable of freezing the signaling state for the said communication session with relevant network resources released and reactivating the said signaling state with relevant network resources re-allocated upon reception of predefined signaling messages.

32. (New) A method for the resource management signaling in a data communication network to support multiple connections for a communication session and achieve better efficiency in resources utilization comprising the steps of:

i. obtaining a new network connection for an existing communication session by a communication terminal; and

ii. indicating to the network its preferred treatment of previous connection by including a flag in the messages used for the setup of the signaling state over the new connection by the said communication terminal.

33. (New) The method for the said communication terminal to decide the value of the flag according to claim 32 by using information comprising:

i. local management policy;

ii. communication application configurations;

iii. status of the interface for the previous connection;

iv. cost of using the connections;

v. available bandwidth of the connection

vi. reliability of the connections; and

vii. a weighted sum of the above factors.

34. (New) A method for the resource management signaling in a data communication network to achieve fast signaling state re-establishment comprising the steps of:

i. detecting the change of data route, and sending messages for releasing network resources along the previous data path for the communication session by a crossover node along the communication data path of a mobile terminal;

ii. setting the signaling state for the communication session to dormant mode and releasing corresponding network resources by the network elements capable of processing the said release message along the previous data path;

iii. detecting the return to the old data path, and send messages for restoring the signaling state and resources along the old data path by the said mobile terminal; and

iv. reactivating the signaling state and re-allocating corresponding network resources by the said network elements capable of processing the said restore message.

35. (New) The method for the resource management signaling in a data communication network according to claim 34 further comprising the steps of:

i.   including a timer value with the said resource release message sent to old data path by the said crossover router; and

ii.   deleting the signaling state in the dormant mode when the timer expires by the said network elements along the old data path.

36. (New) The method for the resource management signaling in a data communication network according to claim 35 further comprising the step of informing the preferred timer value through a message for setting up signaling state for the new data path by the said mobile terminal.

37. (New) The method for the mobile terminal to decide the timer value according to claim 35 by using information comprising:

i.   the network interface type;

ii.   last detected signaling strength;

iii.   attachment point coverage area;

iv.   the access point load situation;

v.   cost of the link; and

vi.   weighted sum of the above factors

38. (New) A method for the resource management signaling in a data communication network to achieve fast signaling state re-establishment comprising the steps of:

i. detecting the change of data route, and sending messages for releasing network resources along the previous data path for the communication session by a crossover node along the communication data path of a mobile terminal;

ii. setting the signaling state for the communication session to dormant mode and releasing corresponding network resources by the network elements capable of processing the said release message along the previous data path;

iii. detecting the said mobile terminal's return to the old data path and sending messages for restoring the signaling state and network resources to the old data path by the said crossover node; and

iv. reactivating the signaling state and re-allocating corresponding network resources by the said network elements capable of processing the said restore message.

39. (New) The method for the resource management signaling in a data communication network according to claim 38 further comprising the steps of:

11

i.   including a timer value with the said resource release message sent to old data path by the said crossover router; and

ii.   deleting the signaling state in the dormant mode when the timer expires by the said network elements along the old data path.

40.   (New) The method for the resource management signaling in a data communication network according to claim 39 further comprising the step of informing the preferred timer value through a message for setting up signaling state for the new data path by the said mobile terminal.

41.   (New) The method for the mobile terminal to detect the return to the old data path according to claim 34 comprising the steps of:

i.   storing previously used address and attachment point information in a local database with a timer associated by the mobile terminal;

ii.   searching the data base when attached to a new attachment point and been allocated a new address by the mobile terminal; and

iii. removing the address and attachment point information from the database when the associated timer expired by the mobile terminal.

42. (New) The method for the crossover node to detect the mobile terminal's return to the old data path according to claim 38 comprising the steps of:

i. storing the mobile terminal's previously used path information in a local database with a timer associated when a data route change is detected by the crossover node;

ii. searching the data base when detected an data route change by the crossover node; and

iii. removing the path information from the database when the associated timer expires by the crossover node.

43. (New) The method for the mobile terminal to decide the timer value according to claim 39 by using information comprising:

i. the network interface type;

ii. last detected signaling strength;

iii. attachment point coverage area;

iv. the access point load situation;

v.   cost of the link; and

vi.   weighted sum of the above factors

44. (New) The method for the mobile terminal to decide the timer value according to claim 41 by using information comprising:

i.   the network interface type;

ii.   last detected signaling strength;

iii. attachment point coverage area;

iv.   the access point load situation;

v.   cost of the link; and

vi.   weighted sum of the above factors

45. (New) A method for the resource management signaling in a data communication network to achieve fast signaling state re-establishment when a local mobile anchor point is used to conceal the movement of the mobile terminal to external nodes comprising the steps of:

i.   informing the mobility anchor point of change of location, and the mobility anchor point sending messages for releasing network resources along the previous data path for the communication session by the mobile terminal;

ii. setting the signaling state for the communication session to dormant mode and releasing corresponding network resources by the network elements capable of processing the said release message along the previous data path;

iii. detecting the said mobile terminal's return to the location and sending messages for restoring the signaling state and network resources to the old data path by the said mobility anchor point; and

iv. reactivating the signaling state and re-allocating corresponding network resources by the said network elements capable of processing the said restore message.

46. (New) A method for the resource management signaling in a data communication network to achieve fast recovery from transient route changes comprising the steps of:

i. detecting the change of data route and send message for releasing the network resources along the old data path by the crossover nodes along the data path;

ii. starting a timer and monitoring the status of the old path and sending message for restoring the signaling state and network resources when detected the old path is available by the said crossover nodes; and

iii. informing the routing management entity of the availability of the old data path by the said crossover nodes.

47. (New) The method for the said crossover node to monitor the availability of the old path according to claim 46 comprising the steps of:

i. periodically sending probe messages along the old data path by the crossover nodes; and

ii. dictating the availability of the old path when received the probe message along the old data path by the crossover nodes.